

**FIG. 1**

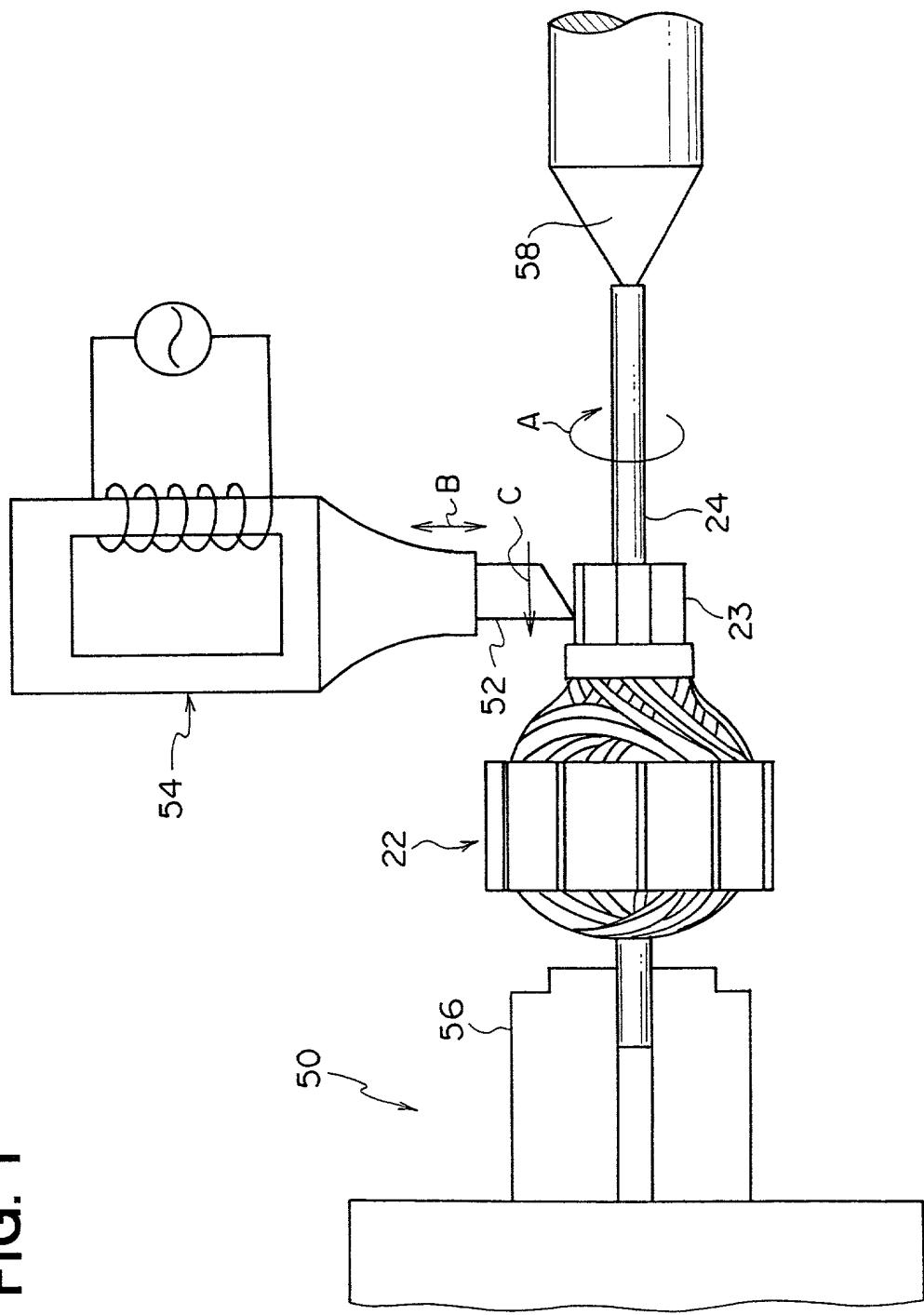
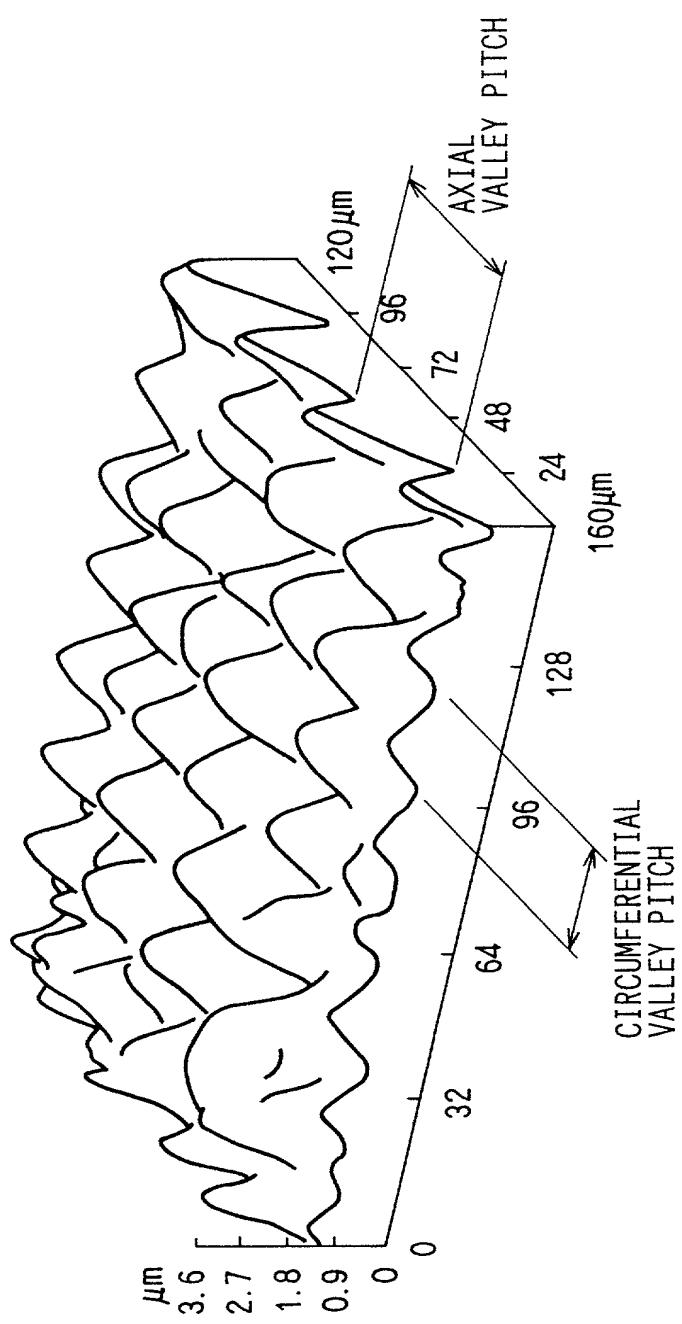
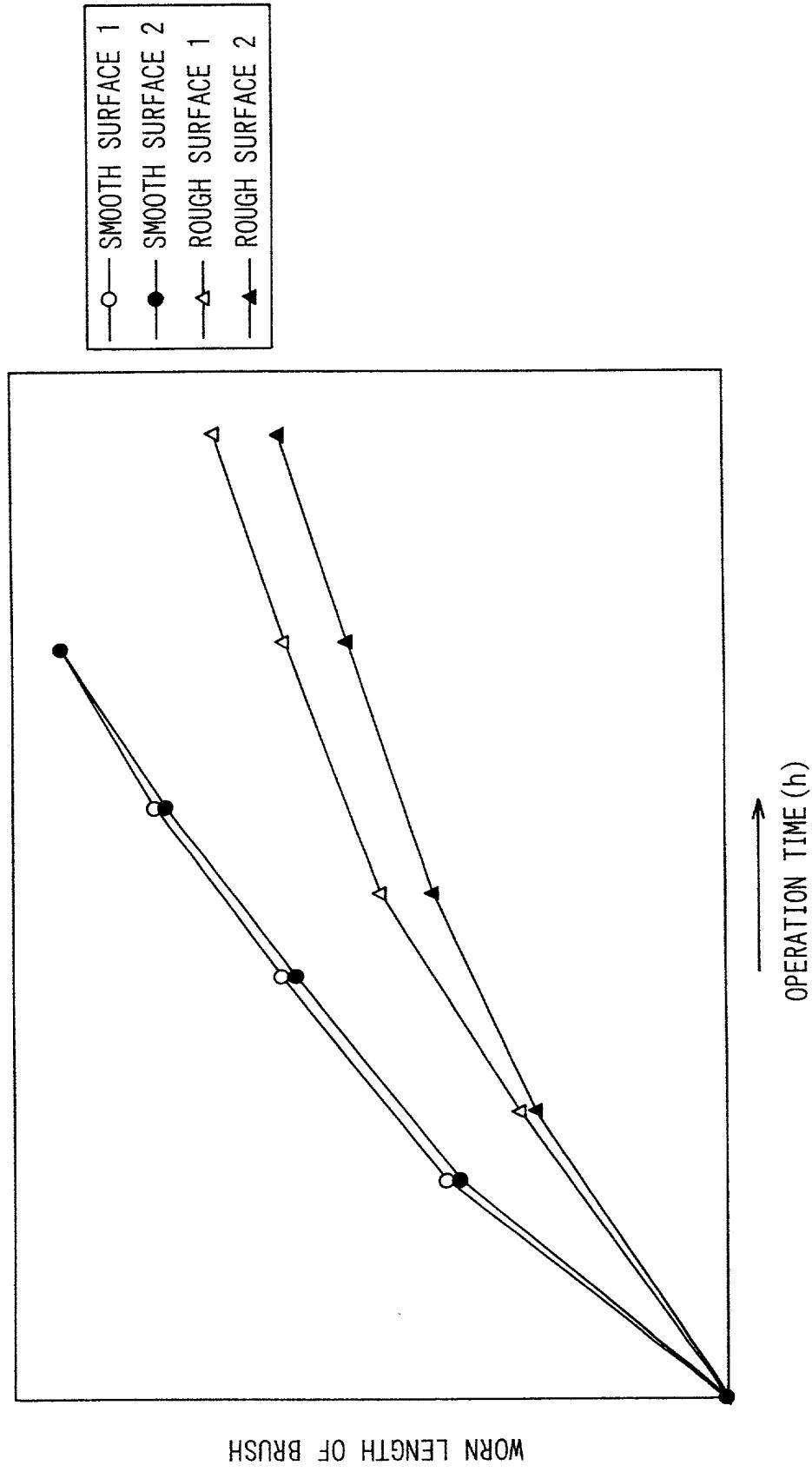


FIG. 2

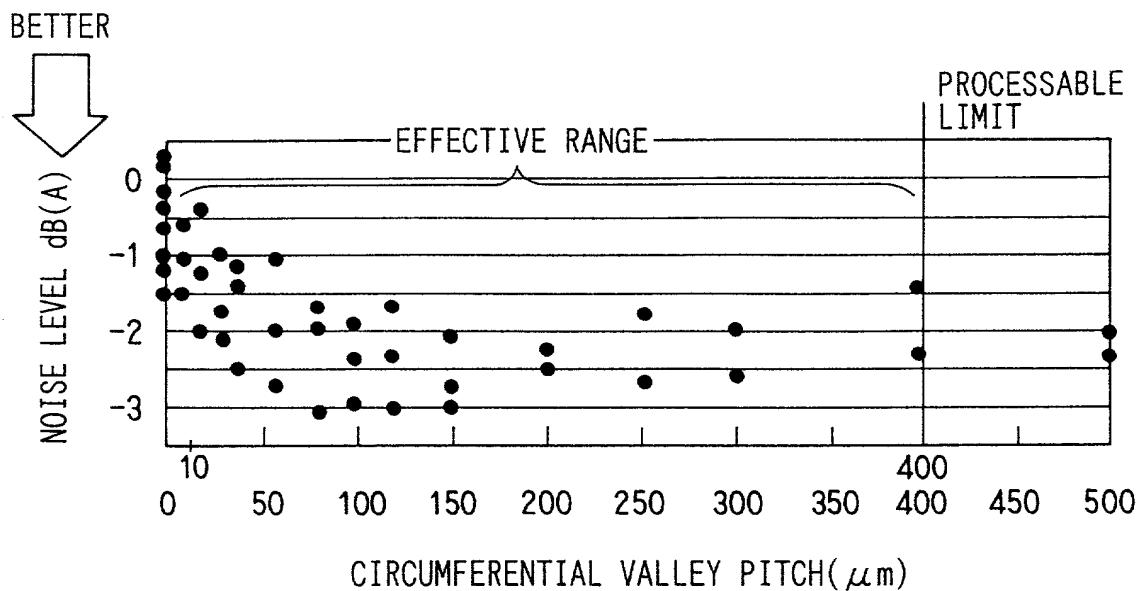


**FIG. 3**

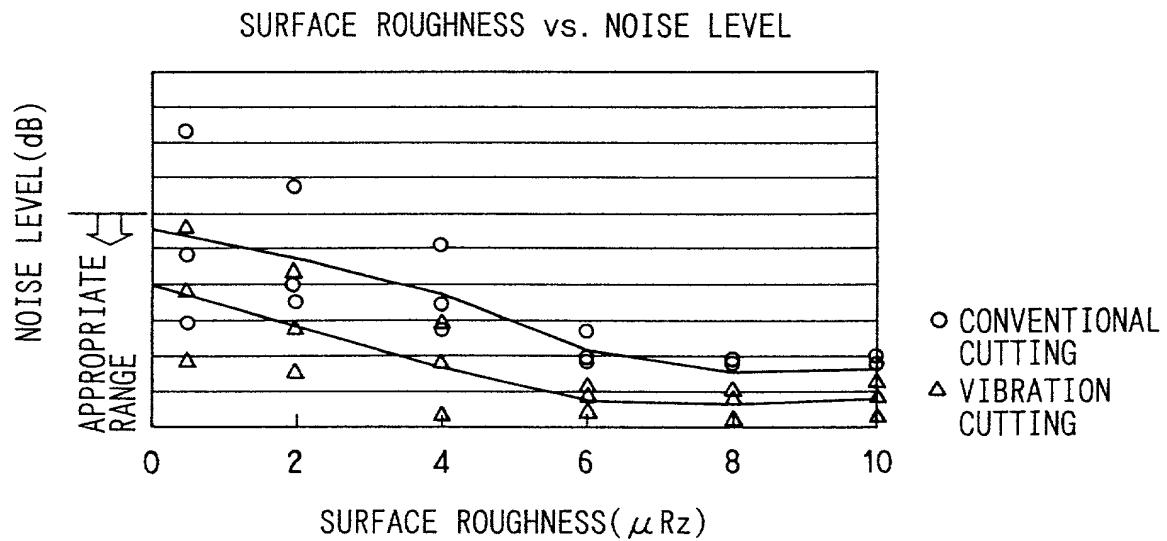
EFFECTS OF SURFACE ROUGHNESS OF COMMUTATOR



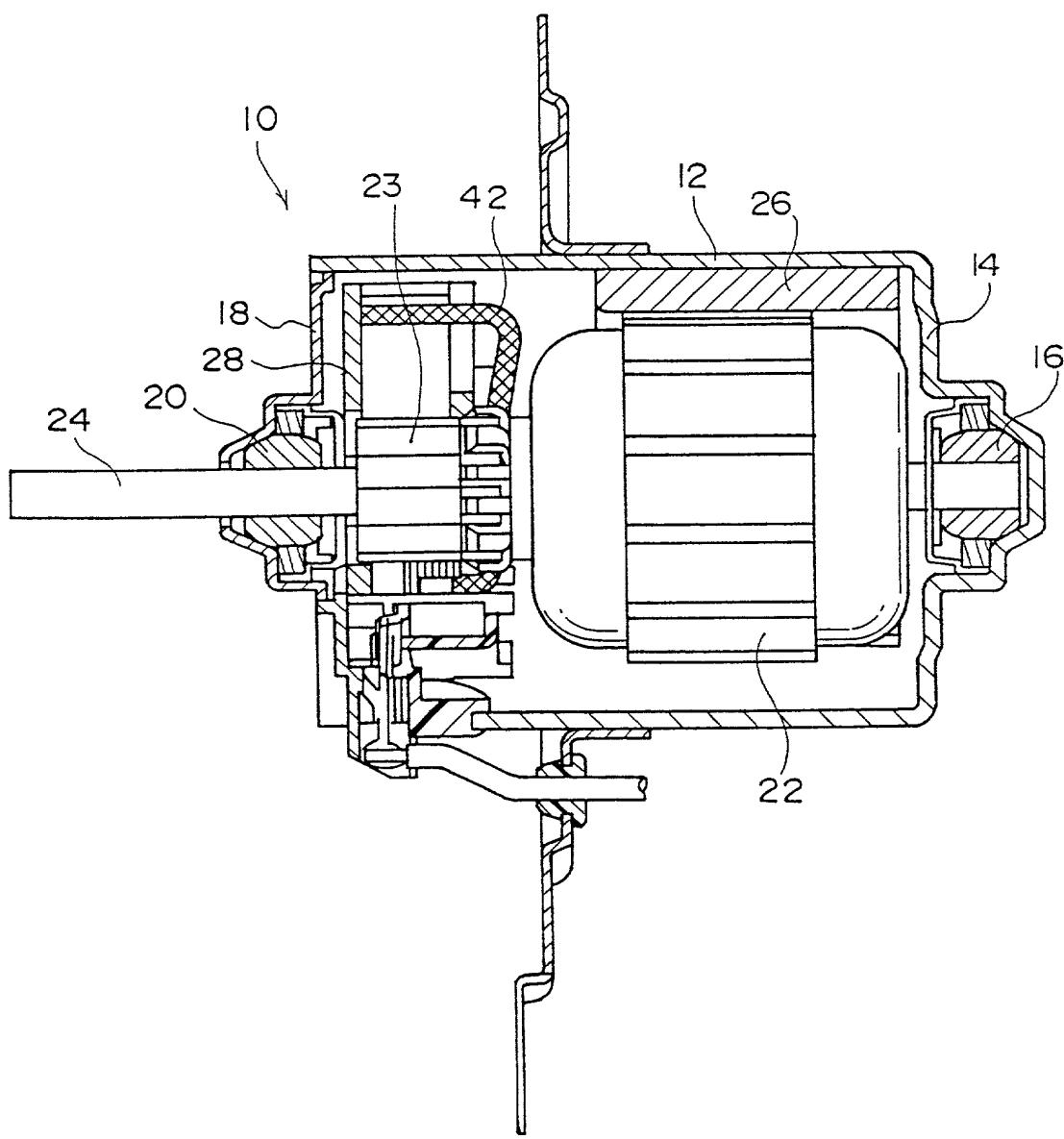
## FIG. 4A



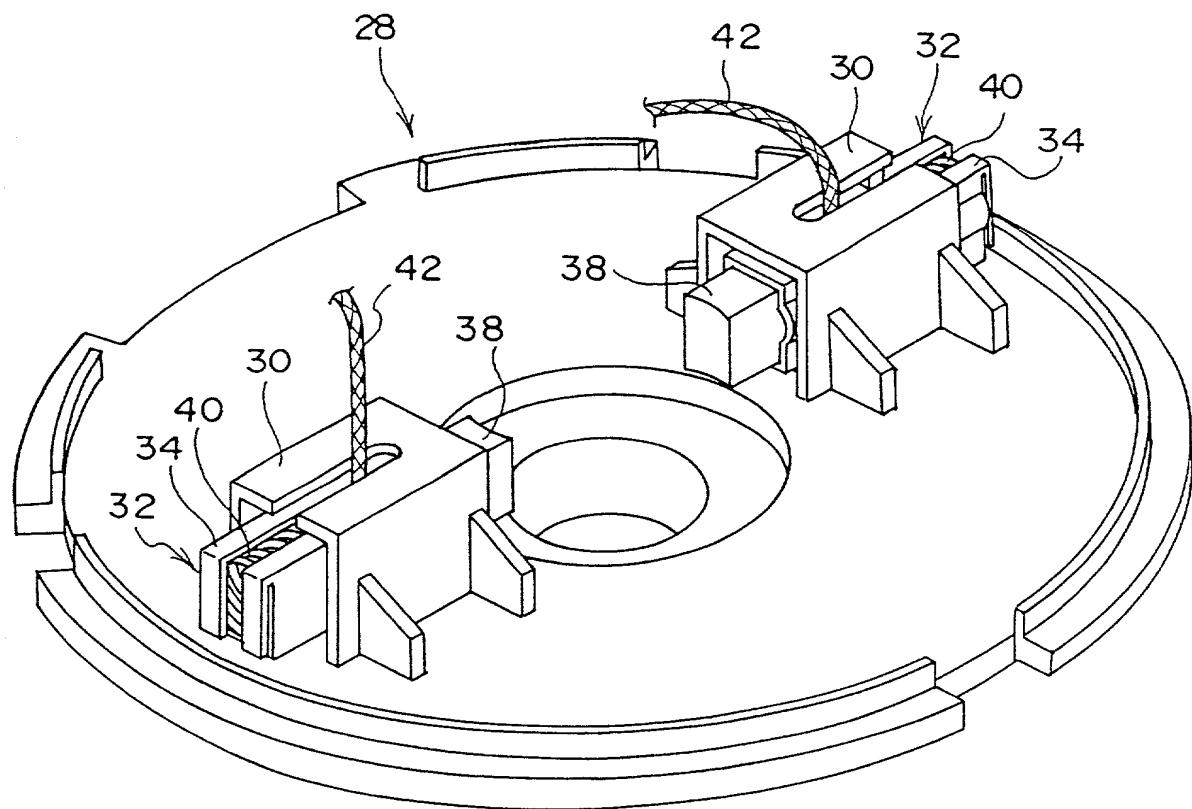
## FIG. 4B



**FIG. 5**



**FIG. 6**



**FIG. 7**

